

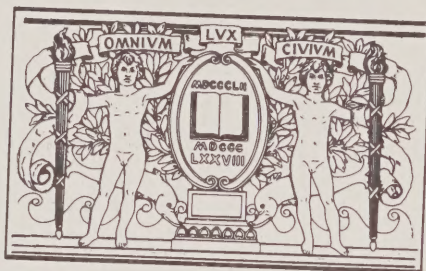
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The Boston Office Market 1989-2000

Boston Redevelopment Authority
Policy Development and Research Department

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Robert Amatruda
Lijian Chen
Andrew Foley
Alexander Ganz
Richard Henderson
Gregory W. Perkins

Raymond L. Flynn, Mayor
City of Boston

Stephen Coyle, Director
Boston Redevelopment Authority

Alexander Ganz, Assistant Director
Policy Development and Research

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The Boston Office Market 1989-2000

State of the Boston Economy 1989, and Outlook for the Future

Between 1976 and 1989, Boston's economy has enjoyed a level of prosperity unmatched by any prior period in the city's history. A total of \$14 billion in real estate investment and the creation of 116,000 jobs are among the leading indicators of Boston's prosperity over this 14-year span. Since 1981, significant growth in personal income and an unemployment rate that stayed far below the national average have also been hallmarks of Boston's economic success.

A major factor in Boston's prosperity has been the outstanding performance of the city's office market economy throughout most of the 1980s. Driven by growth in Boston's preeminent service industries — particularly financial services — the downtown office market absorbed 2 million square feet of new office space annually between 1984 and 1987. The cumulative effect of this new absorption has been to provide Boston with one of the strongest office markets in the nation. This office market both reflects the strong rate of job growth in the city, and supports many jobs in the real estate and construction industries.

As with all economic cycles, Boston's record growth rates have begun to moderate to levels that more closely approximate Boston's historic growth rates and those of the nation as a whole. A combination of factors ranging from the maturity of the computer industry, declining defense spending, financial market fluctuations, and overbuilding in the housing market have contributed to Boston's slowdown in growth.

In late 1988 Boston's economy began showing signs of an economic slowdown as evidenced by unemployment rates, job growth, housing sales volume and prices, and commercial leasing activity. These trends have continued into 1989, but have been balanced by some other signals of an economy with real strength. Unemployment was 4.4 percent in September, up from 3.3 percent of the year before but still below the national rate of 5.1 percent. Job growth fell to 5,000 jobs in 1988 from 15,000 in 1987 but the job trend is still positive. Housing sales fell, new starts declined, the waiting time for sales

crept beyond 90 days, and sales values were either flat or showed declines of about 5 percent, but this reflects the moderating of an overheated market. Office leasing dropped to below 1.5 million square feet in 1988 and is well below 1 million through September of this year, yet vacancy rates remain among the lowest in the nation and rents among the highest. Hotel occupancy rates are down 4 percent in 1989, yet they rank high in the nation and hotel room rates remain strong. Retail sales in greater Boston were 3 percent above the corresponding mark of August, 1988.

The overall view, then, is one of slower growth in an economy that remains strong. According to the New England Economic Project (NEEP), a group of business, academic and government economists, the outlook for Boston in 1990 is for continued moderate growth, with an upturn in economic activity predicted in 1991.

The longer-term forecast for Boston's economy remains very bright. By the year 2000, the city's economy will have added 85,000 new jobs. The intermediate and long run economic picture to the year 2000 and beyond is positive as the Boston services economy further diversifies, newer manufacturing industries are generated, and the prospect for stimulus from world trade brightens with the reemergence of the European economy as a stronger and more unified force. Within this picture the outlook for the office market in 1990 is for slow to moderate office demand, but with a stable market since very little space will be completed. The outlook for the 1990s is for steady absorption at rates somewhat lower than occurred in the mid-1980s (1.2 to 1.5 million square feet annually as compared with 2.0 million) and for stable vacancy rates averaging under 12 percent.

Any concerns about the present state of the Boston economy should not obscure the gains that have been made in the last decade, a record of which the community, business, and government should be proud. Between 1983 and 1988 Boston experienced strong and consistent economic growth as 60,000 new jobs were added, the unemployment rate fell to a low of 3.2 percent, and per capita income substantially outpaced national gains. Between 1984 and 1988 nearly \$7 billion of new private real estate investment was completed. In these years the city gained 10 million square feet of new office space,

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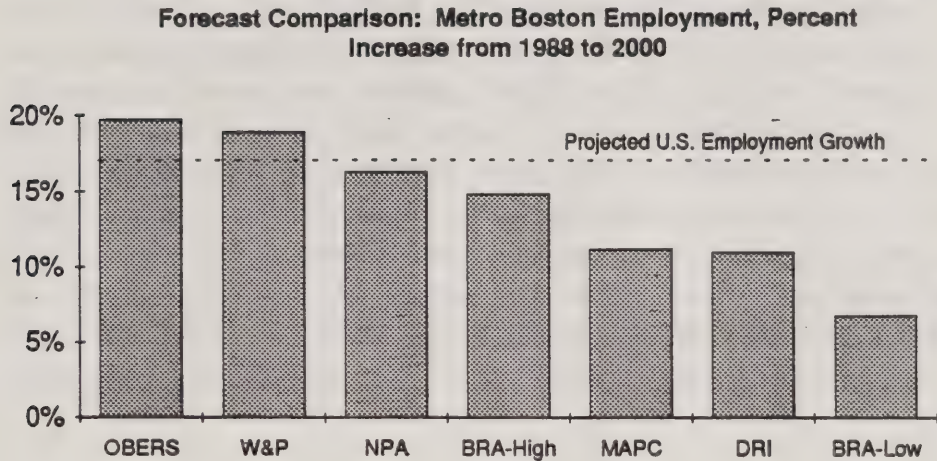
2 million square feet of retail space, and 2,900 new hotel rooms, while maintaining commercial market indicators of office vacancy, retail sales, and hotel occupancy among the best in the nation.

In 1986 the BRA issued a key report, "The Boston Office Market," which provided a detailed analysis of the present and future status of Boston's office economy. The report held that Boston had one of the top five office markets in the nation, and that a regular stream of new office development completed annually to match projected demand for space would provide a healthy and orderly downtown office market. Based upon projected supply and demand through 1990, the 1986 report forecast that office vacancies would peak at over 10 percent in late 1988 and early 1989, and would then stabilize.

Since that report the BRA has worked to keep office vacancy rates in the Boston market within an ideal range of 8 to 12 percent, by approving projects on the basis of quarterly analyses of the market. The 8 to 12 percent range is considered to keep a market healthy for both tenants and investors by meeting the needs of both groups. This "metering" of the office market has been extremely successful and has closely matched the forecasts done in 1986. Office space has expanded to accommodate the needs of tenants at reasonable rental rates, while rents and values have also increased and held steady at a level that ensures a fair return to real estate investors. With BRA "metering" the market also has maintained a steady stream of construction work, instead of falling into more typical boom and bust cycles. Vacancies have remained within the ideal range, and are projected to do so through the rest of the century.

The long term economic outlook beyond 1992, to 1995 and 2000 remains bright in the eyes of most public and private economic forecasters at the national and local levels. Projections of total job growth in metropolitan Boston, between 1988 and 2000, vary in a range from 700,000 to 250,000 total jobs and the rate of growth varies from 20 percent to 7 percent. See Figure 1. These forecasts have been done by: the U.S. Bureau of Economic Analysis, Woods and Poole, the National Planning Association, the Boston Redevelopment Authority, the Metropolitan Area Planning Council, and Data Resources Inc. The BRA has projected the City of Boston job growth to total 85,000

Figure 1



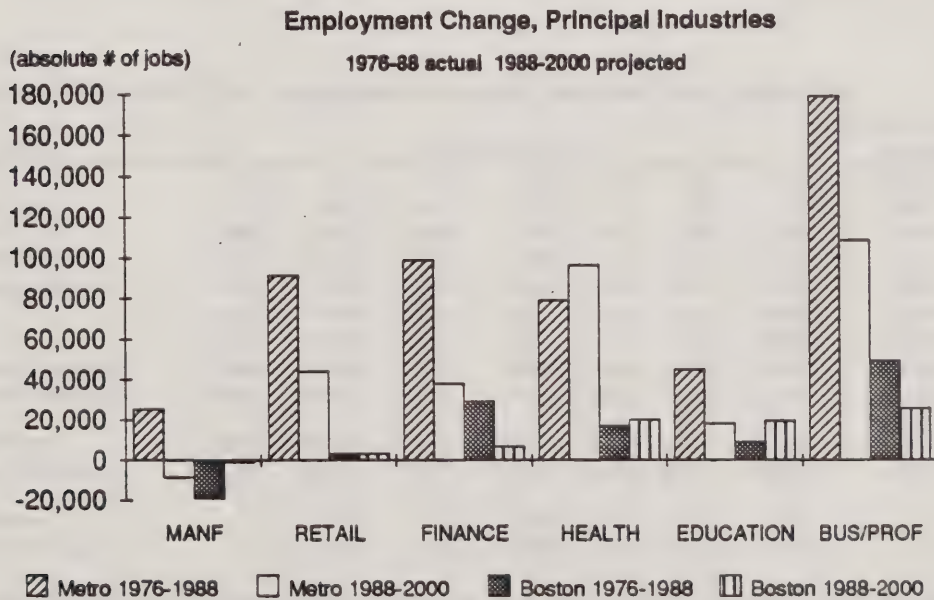
new jobs over 12 years, or an annual average of 7,000 from 1988 to 2000. This compares to 10,000 new jobs generated per year between 1976 and 1988. Private office employment growth would total 53,000 jobs and require 13.5 to 15.4 million square feet of new office space. Thus, both total and office job growth in Boston through the year 2000 will be lower than in the mid-80s, but will still be strong.

The bright long-run picture of the Boston economy is premised on Boston's further economic diversification, the generation of newer scientifically-based industries, the increasing globalization of world trade, and the ripple effects that these developments would bring throughout the local economy. The "new economy" will contain a stronger component of biotechnology, pharmaceuticals, computer software, instruments, and other related high-technology industries. The area's prominent institutions of higher education and medicine will increasingly strengthen in their spinoff of both commercial and non-profit applications.

The globalization of commerce should continue to intensify, especially along the North Atlantic Rim with the increasing integra-

tion of the European Economic Community and the economic regeneration of Eastern Europe. And finally, the \$8 billion of public "megaprojects" to begin in 1991 will provide a stimulus to the construction industry and its suppliers while improving the regional infrastructure and quality of life. All of these effects will strengthen and diversify the Boston area economy with growth in services, finance, communications, and related industry. While the city of Boston should increase its share of "new economy" manufacturing, there is no doubt that new manufacturing businesses throughout the region will further stimulate professional and business services and their demand for office space, just as the original high-tech industry along Route 128 did in the 1960s and 1970s. Figure 2 illustrates the changing mix of employment by industry in the City of Boston and the metro region.

Figure 2



Source: BEA and BRA Research

Employment in Office-based Industries of the Boston Economy

In the past decade office-based industries played an increasingly important role in Boston's economy and became a major contributor to the city in terms of jobs, income and tax revenues. This section analyzes past and projects future office employment growth in Boston for the 12 year periods 1976 to 1988 and 1989 to 2000. BRA studies indicate that Boston will maintain its role as a competitive and desirable location for the growth of office-based industry.

Boston experienced a net gain of 68,000 office jobs during the period 1976-1988, as shown in Table 1. Office employment increased at an average annual rate of 3.2 percent, translating to an average of 5,670 new jobs per year. This rapid growth is primarily ascribed to the increase of office employment in finance, professional and business services as well as the public sector. Between 1976 and 1988, employment in firms in the services sector had increased by 45 percent and in

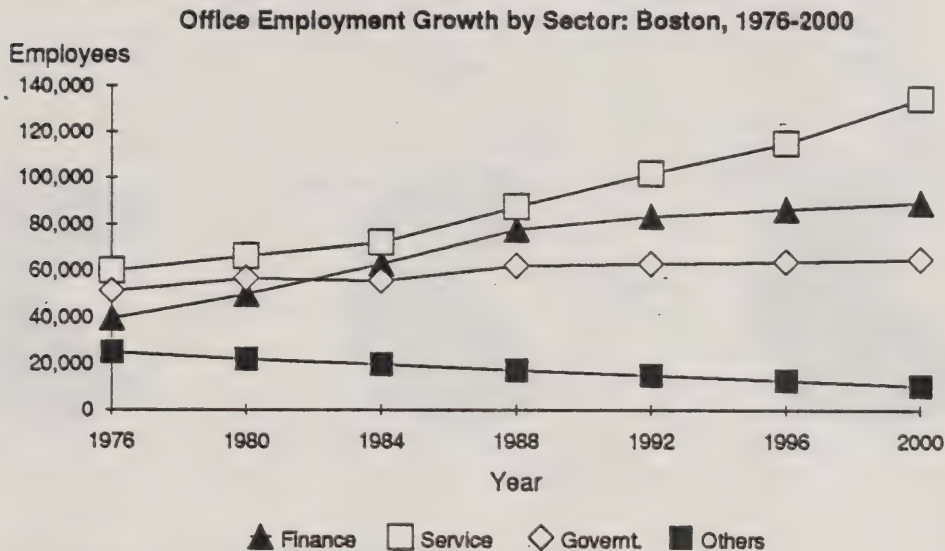
Table 1

Estimated and Projected Office Employment in Boston, Selected Years 1976-2000

Industry	Office Employment							Annual Rates of Change (In percent)	
	1976	1980	1984	1988	1992	1996	2000	1976-1988	1988-2000
1. Construction	2,890	1,529	1,068	709	520	328	133	-6.14%	-8.77%
2. Manufacturing	5,687	5,303	4,550	3,148	2,947	2,751	2,559	-3.72%	-1.56%
3. Transp./Comm./Utilities	11,950	10,755	9,680	9,563	7,870	6,191	4,526	-1.66%	-4.39%
4. Trade/Wholesale/Retail	4,806	4,449	4,472	3,855	3,679	3,496	3,311	-1.66%	-1.18%
5. Finance	39,771	60,208	62,885	77,711	83,282	88,338	89,364	7.95%	1.25%
6. Services	60,178	66,196	72,245	87,441	101,706	115,106	134,501	3.78%	4.48%
7. Government in Private Space	15,849	17,525	18,337	19,148	19,379	19,644	19,984	1.73%	0.36%
8. Government in Public Space	35,537	39,295	41,115	42,934	43,451	44,045	44,809	1.73%	0.36%
Total in Private Space	140,930	155,965	173,234	201,575	219,383	233,856	254,378	3.59%	2.18%
Total Public and Private Space	176,467	195,260	214,349	244,510	262,834	277,901	299,187	3.21%	1.86%
Net Annual Increase		4,698	4,772	7,540	4,581	3,767	5,322		
Annual Percentage Change		2.66%	2.44%	3.52%	1.87%	1.43%	1.91%		

Notes: The estimates and projections of office employment in this table are based on two comprehensive office market inventory surveys conducted by B.R.A. in 1978 and 1988 respectively, and on current estimates and analysis of employment information published by the U.S. Bureau of Economic Analysis and the Massachusetts Department of Employment and Training, and BRA projections of employment and the office market.

Figure 3



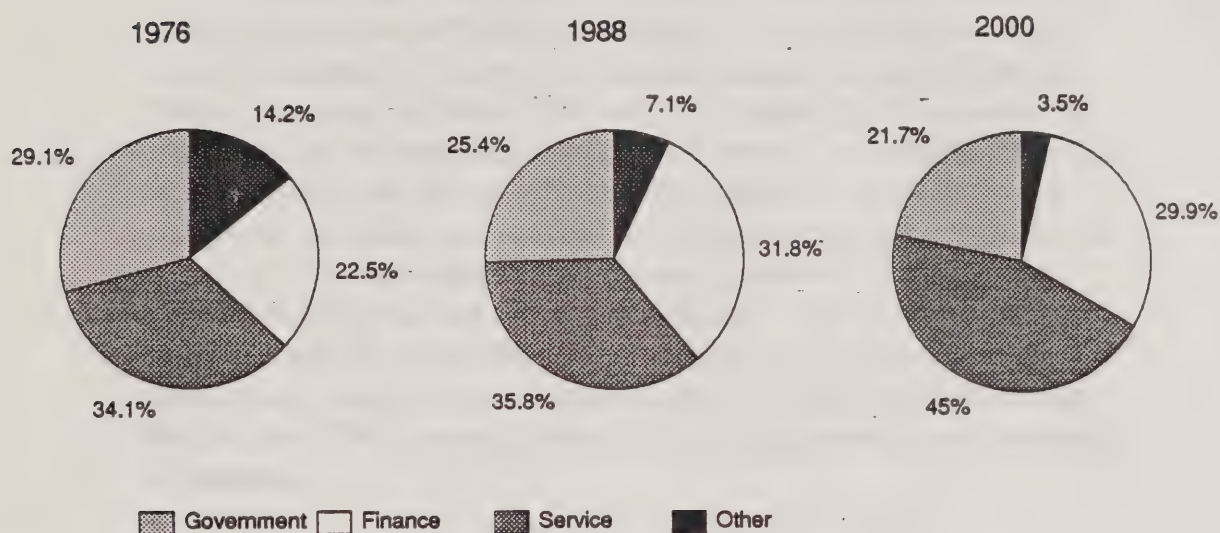
the finance sector by 95 percent, together a gain of close to 65,200 jobs. These changes are graphically illustrated in Figure 3.

By 1988, the total number of jobs in Boston's office-based industries was approximately 244,500, which equalled 38 percent of Boston's total employment of 638,240. Of this total, the finance and services sectors accounted for 77,700 and 87,400 jobs respectively. The government sector was a major office employer, also, with 62,080 workers. These three sectors combined accounted for 227,200 workers or 93 percent of the total office employment. Figure 4 displays the share in percent of office workers in the major industries in 1988 and the changing of occupational composition of office employment, 1976 to 1988, actual, and to 2000, projected.

For the future, office-based employment in Boston could add an additional 54,000 workers between 1988 and 2000, an average increase of nearly 4,500 jobs per year over the next 12 years or a 22 percent increase from 1988. See Table 1. The rate of growth is slower than that of the past decade due to the emerging labor shortage in the

Figure 4

Composition of Boston Office Employment by Sector: 1976, 1988 and 2000



baby-bust era, and anticipated gains in productivity per worker stemming from office automation, job training and education, and an older and more experienced labor force. Among the industry groups that are expected to continue to grow in office employment, the most rapid increases will occur in services and finance. See Figure 3. As presented in Table 1, total employment in office-based industries is projected to reach 300,000, equal to 40 percent of the projected total employment of 700,000 in Boston, a 3 percent larger share than in 1988. The impact of this employment increase on office space supply is assessed in the next section.

The Boston Office Market: Past, Present and Future

Office development from 1950s to 1980s.

Demand and supply of all classes of office space in the Boston office market from 1959 to 2000 is shown in terms of the growth of total office space in Figure 5 and annual vacancy rates in Figure 6. During the years between 1976 and 1988, the supply of space had increased at an average annual rate of 4.8 percent, or approximately 1.5 million square feet per year. Total office space increased by 58 percent, some 18 million square feet. The largest yearly increment in the supply of office space was 3.86 million square feet in 1988. It is estimated that approximately 60 to 65 percent of the new additions of office space during 1976-1988 fell in the category of Class A competitive office space, the predominant component of the Boston office market by the late 1980s, housing the majority of employment in office-based industries.

Figure 5

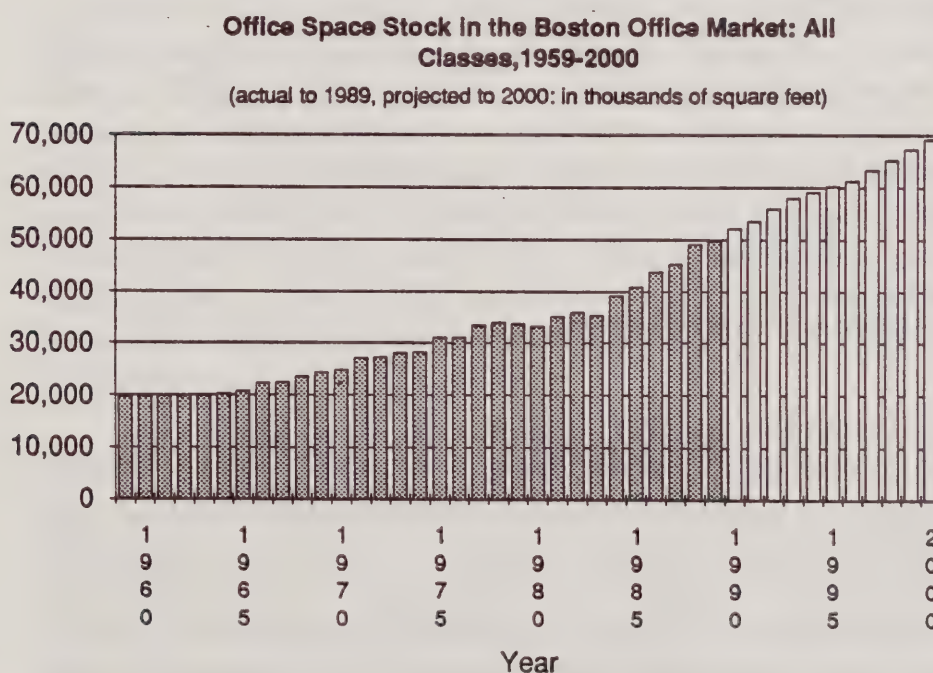
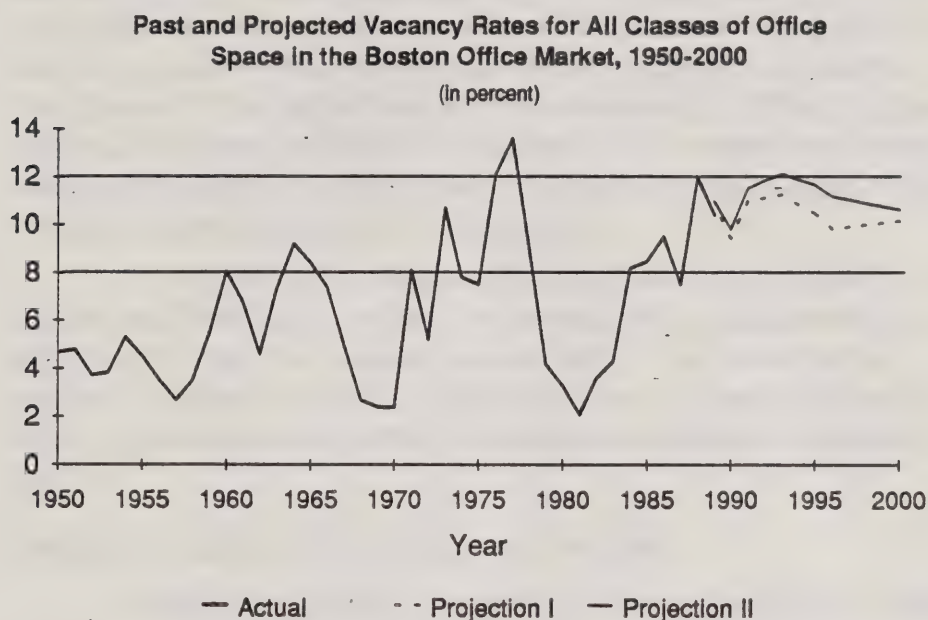


Figure 6



Studies by the Boston Redevelopment Authority show that at the end of the first quarter of 1989, the Boston Class A office market was comprised of 126 buildings accounting for 32.2 million square feet of space. Of this total, 24.6 million were in the Financial District (76.6 percent), 6.3 million were in Back Bay (19.7 percent) and 1.2 million square feet were in the Government Center (3.8 percent). It was estimated that total Class A office space was equal to approximately 65 percent of the total office space inventory in the Boston office market. As of the first quarter of 1989, total office space in the Boston office market (including all classes) was in the neighborhood of 50 million square feet.

The vacancy rate of office space is a primary indicator of the status of an office market. It is generally agreed that a vacancy below 8 percent is too tight, pushing up rents and restricting the mobility and expansion of tenants as well as the entry of new establishments. On the other hand, a vacancy rate above 12 percent is believed to be too soft, resulting in under-utilization of resources, extensive rent concessions, poor returns on investment, and weakening of market value.

In the years between the early 1960s and late 1970s, vacancy rates in the Boston office market fluctuated greatly, more or less coinciding with a similar nation-wide phenomenon. During this period, three up-and-down cycles of changes of office vacancy rates can be observed (see Figure 6). The highest vacancy rate occurred in 1977 at 13.6 percent and the lowest in 1982 at 2.1 percent. This extreme low vacancy rate started to climb in 1983. After 1984, vacancy rates tended to stay within the optimal range of 8 to 12 percent.

In recent history the Boston office market has been healthy and the demand for office space has been strong, with a modest softening in 1988 and 1989. The average vacancy rate for the Boston office market in the ten years before 1988 was below 10 percent; it rose to nearly 12 percent late in 1988, but has since held steady below this level.

Metering Development: The Track Record, 1987-1989.

Boston's track record of metering the flow of new office supply to maintain a consistent and orderly market with stable property values and fair market rents shows very good results from 1987 through 1989. Boston maintains a healthy office market compared to the nation's other cities; as of June 1989 Boston at 11.5 percent had the second lowest vacancy rate among major U.S. cities.

In late 1986, starting with a detailed office market analysis, the BRA began monitoring the office market as a means of following trends in the supply and demand for new office space. Based upon the scheduled pipeline of new office space completions and estimated levels of future office space demand, detailed quarterly projections of office vacancy rates have been produced. As a result of the city's management of new office development Boston's office vacancy rate has remained in the 8 to 12 percent range.

The track record is now available for 1986(IV) through 1989(II). Table 2 shows the three projected vacancy rate scenarios compared to the actual rate. In sum, the record for the 2 1/2 year period has been reasonably good for Class A vacancies. All three scenarios correctly projected the peak vacancy rate to occur at year end 1988. The only real difference has been that the three scenarios did not foretell a

Table 2

Metering Office Development: The Track Record, 1987-1989
Class A Vacancy Rates in Percent

	Projections			Actual Rate
	A	B	C	
1986 IV	5.7	5.7	5.7	5.7
1987 I	6.0	6.4	6.3	6.4
II	4.5	5.3	5.1	6.1
III	7.3	8.4	8.1	6.4
IV	7.0	8.4	8.0	5.2
1988 I	7.2	8.9	8.3	5.0
II	8.1	10.0	9.4	5.3
III	9.5	11.5	10.8	9.0
IV	10.0	12.3	11.4	12.0
1989 I	8.6	11.1	10.1	11.7
II	7.7	10.4	9.3	11.5

Projection A: Constant absorption 1.8 million sq. feet annually

Projection B: Constant absorption 5.5% annually

Projection C: Constant absorption 6.0% annually

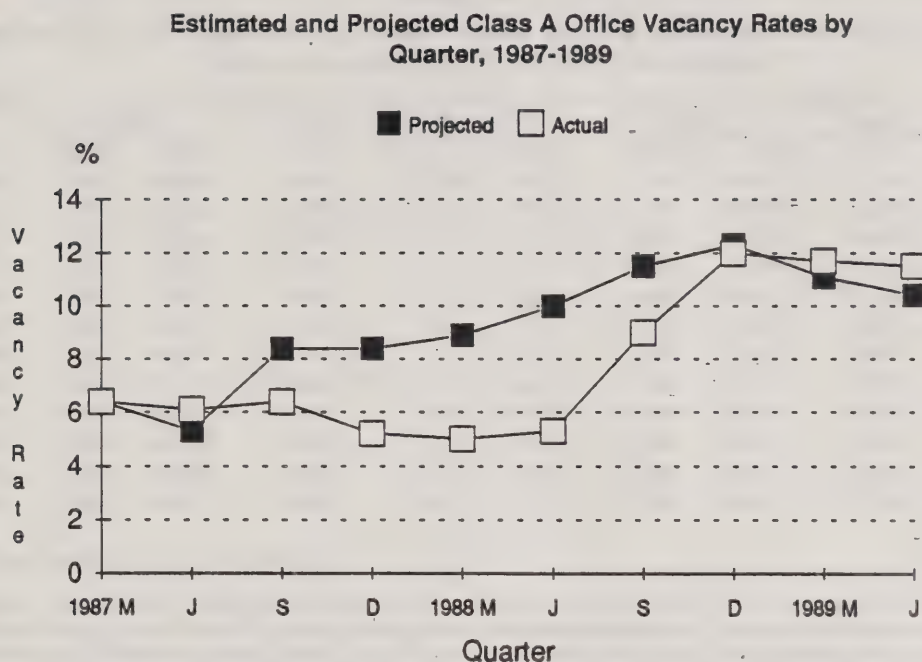
Source: Boston Redevelopment Authority

downturn in absorption during 1989, and thus the projected rates were lower by 1 to 4 points in 1989(II) than the actual 11.5 percent rate. Figure 7 indicates that the BRA mid-range projections have been quite close to the actual rate in the recent past.

Metering the office market has worked well in providing a more stable and consistent office investment return. The BRA has brought a more rational management to the Boston office market by approving projects to be completed at certain dates, thus keeping the market healthy for both tenants and investors. Space has expanded to accommodate the needs of tenants at reasonable rental rates, while rents have also increased and held steady at a level that ensures a fair return to real estate investors. Such a stable office market also stabilizes employment growth in construction and real estate industries.

Boston has not joined the many cities in the nation suffering from a supply of office space in excess of demand. High vacancy levels result in rent concessions to tenants of other space within the city, meaning even fully occupied buildings are threatened with a loss of in-

Figure 7



Source: Boston Redevelopment Authority, Research Department, November 1989.

come-earning capacity; declines in rental rates endanger repayment of real estate investments and halt new investment, causing a ripple effect on the local economy. In the longer term, overreaction to high vacancies can result in a shortage of office space after the existing oversupply is absorbed. It is this classic boom/bust pattern that Boston has avoided successfully, and should continue to avoid, through the BRA's metering of the office market.

Office development to the year 2000.

The Boston office market is expected to maintain its health and bright prospect into the remaining years of this century. It will continue to grow and retain its strength and competitiveness. As the pre-eminent center of financial, legal and other professional and business services in New England, as a leader in education, science and technology research, and as a desirable and attractive city for living and visiting, Boston will continue to be a strong center for economic growth.

Table 3

Projected Vacancy Rates for All Classes of Office Space in the Boston Office Market: 1989-2000
(office space in thousands of square feet, rate in percent)

Year	Projection I					Projection II				
	Supply		Absorption	Vacancy		Supply		Absorption	Vacancy	
	Added	Total	Total	Rate	Total	Added	Total	Total	Rate	Total
1989	908	49,881	44,502	10.8	5,379	908	49,881	44,402	11.0	5,479
1990	685	50,566	45,802	9.4	4,764	685	50,566	45,602	9.8	4,964
1991	2,340	52,906	47,102	11.0	5,804	2,340	52,906	46,802	11.5	6,104
1992	1,550	54,456	48,402	11.1	6,054	1,550	54,456	48,002	11.9	6,454
1993	1,545	56,001	49,702	11.2	6,299	1,545	56,001	49,202	12.1	6,799
1994	1,200	57,201	51,002	10.8	6,199	1,200	57,201	50,402	11.9	6,799
1995	1,220	58,421	52,302	10.5	6,119	1,220	58,421	51,602	11.7	6,819
1996	1,030	59,451	53,602	9.8	5,849	1,030	59,451	52,802	11.2	6,649
1997	1,500	60,951	54,902	9.9	6,049	1,250	60,701	54,002	11.0	6,699
1998	1,500	62,451	56,202	10.0	6,249	1,250	61,951	55,202	10.9	6,749
1999	1,500	63,951	57,502	10.1	6,449	1,250	63,201	56,402	10.8	6,799
2000	1,500	65,451	58,802	10.2	6,649	1,250	64,451	57,602	10.6	6,849

Source: Research Department, B. R. A., Oct. 1989.

Note: The supply pipeline, through 1996, represents approved projects. Projection I, thereafter, assumes that annual new supply of office space would be 1,500,000 square feet, equal to the average annual growth of office space during 1985-1988. It further assumes an annual absorption of office space of 1,300,000 square feet. Projection II assumes that annual new supply of office space would be 1,250,000, equal to the average annual growth of office space during 1978-1988. Also, it assumes that annual office space absorption would be 1,200,000 square feet.

According to BRA projections, as shown in Table 3, all classes of office space in the city of Boston during the next 12 years will increase at a rate averaging from 1 to 1.5 million square feet per year, while the annual net absorption of office space is anticipated to be between 1.2 and 1.5 million square feet. Both of these rates are in accord with the city's growth rates over the past twenty years. By the year 2000, the total office space inventory in all classes of the Boston office market is expected to be in a range of 64 to 66 million square feet, representing a net increase of 14.5 to 16 million square feet from the first quarter of 1989.

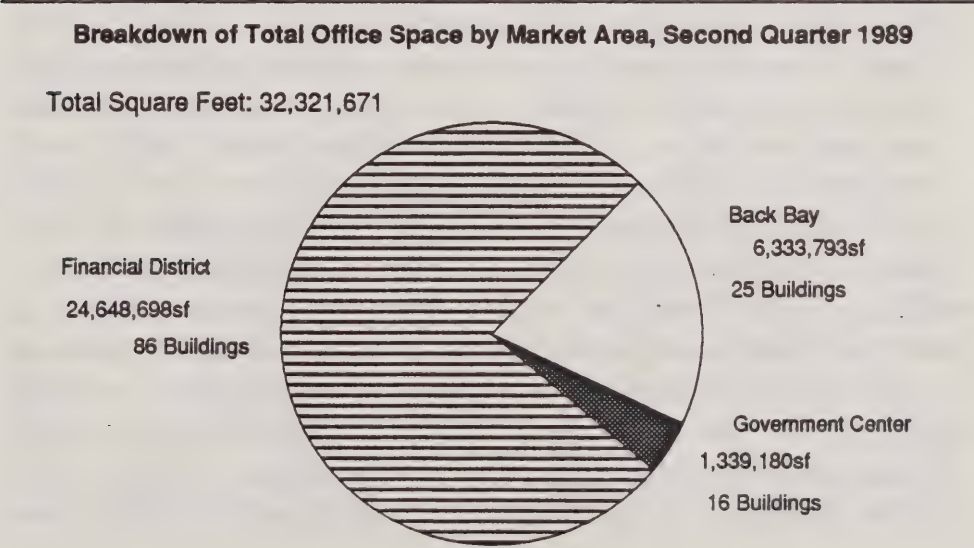
Two projections of demand and supply of all classes of office space in the Boston office market are provided in Table 3. The projections indicate that vacancy rates will range from 9.4 to 12.1 percent during the rest of this century. This would meet the development strategy to keep vacancy rates within a range of 8 to 12 percent so as to foster a healthy and dynamic office market. The next section focuses on the major part of this market, Class A space, over the next few years.

The Boston Class A Office Market, 1989 and Projections through 1994

The second quarter 1989 Class A office vacancy rate dropped fractionally from those experienced at the year-end of 1988 and the first quarter of 1989, reflecting the stabilization of the Boston Class A office market. The vacancy rate in Boston had risen notably from the second quarter of 1988, with more than double the norm of new office completions coming on to the market in 1988. While leasing has slowed, the BRA approved few new projects to come on line in the next 18 months, so vacancy rates will continue to decline further through 1990. The projects now approved and in the pipeline will be ready for occupancy as leasing activity picks up, ensuring that future vacancy rates do not drop too low. They may rise slightly in mid-1991 and mid-1993 as new completions come on to the market, but will keep within the 8 to 12 percent range at each year's end.

The Boston class A office market is comprised of 127 buildings totaling 32.3 million square feet of office space at the end of the second quarter of 1989. Of this total, 24.6 million is in the Financial District (76.3 percent), 6.3 million is in the Back Bay (19.6 percent), and 1.3 million is in the Government Center area (4.1 percent). See Figure 8.

Figure 8



Source: Boston Redevelopment Authority, Research Department, November 1989

The Second Quarter 1989 Boston Class A Office Vacancy Rate.

At the close of the second quarter of 1989, the vacancy rate of downtown Boston's class A office market was 11.5 percent, representing a decline from the first quarter 1989 rate of 11.7 percent and the year-end 1988 rate of 12 percent. The Financial District followed a similar pattern. The second quarter 1989 vacancy rate was 12 percent, in comparison with the first quarter rate of 12.7 percent and the year-end 1988 rate of 14 percent. The Back Bay vacancy rate was 7.6 percent in the second quarter of 1989, down slightly from the first quarter rate of 7.8 percent but above the year-end 1988 rate of 6.2 percent. The Government Center vacancy rate rose markedly to 19.9 percent. This rate was above first quarter rate of 11.8 percent and significantly above the year-end of 1988 rate of 1 percent. These wide fluctuations in the Government Center vacancy level are due to the small market size, where one building completion such as One Bowdoin Square, which added space equal to 10.8 percent of the previous total space available, can have a dramatic short-term impact.

BRA Vacancy Estimates Compared to Private Real Estate Firms.

The BRA's estimates of current trends in vacant office space parallel those generated by private real estate firms which monitor office occupancy figures. A summary of the reported vacancy rates is provided in Table 4. The differences between the BRA estimates and those provided by private realty firms are largely the result of the inclusion of some Class B space in the estimates of the private realty firms. Class A space is defined by the BRA as any office space, in a building built or renovated since 1959, located within the downtown area and commanding an entry rent of at least \$20 per square foot annually. Real estate firms include in their vacancy estimates buildings in the fringe areas of downtown such as Fort Point Channel and Charlestown, and downtown buildings which do not meet the BRA criteria for Class A office space. Spaulding and Slye base their data on upwards of 160 buildings, while the BRA recognizes only 127 of them as Class A office buildings. The BRA estimates are drawn from Spaulding and Slye occupancy data for each building. Consequently, even

with the same data source, the BRA vacancy estimates and those reported by Spaulding and Slye differ.

Spaulding and Slye reported a second quarter 1989 vacancy rate of 11.4 percent, down from the 11.8 percent experienced in the first quarter and down from the year-end rate of 12.2 percent. They reported the Financial District rate to be 12.1 percent and the Back Bay rate to be 7.3 percent. Other Boston real estate agencies report similar findings. Meredith & Grew reported an overall vacancy rate of 12.6 percent, in comparison with the 12 percent for the first quarter and the 12.2 percent in the fourth quarter of 1988. In addition, they reported the Financial District rate to be 11.7 percent and the Back Bay's rate at 9.6 percent. Cushman & Wakefield reported an overall 12.6 percent vacancy rate for downtown, up slightly from 12.4 percent in the first quarter. They reported 11.7 percent in the Financial District and 10 percent in the Back Bay.

Table 4

Estimates of Quarterly Vacancy Rates for Class A Office Space in Boston, 1987-1989

Source	District	(in percent)									
		1987				1988				1989	
		1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd
B.R.A.	Financial	6.8	6.8	7.2	6.3	6.0	6.1	10.4	14.0	12.7	12.0
	Back Bay	3.5	3.0	2.7	1.6	1.7	3.1	5.3	6.2	7.8	7.6
	All Districts	6.4	6.1	6.4	5.2	5.0	5.3	9.0	12.0	11.7	11.5
Spaulding & Slye	Financial	7.1	7.2	6.5	6.7	6.8	7.3	11.4	13.4	12.7	12.1
	Back Bay	3.6	3.0	2.4	1.8	1.7	4.3	6.4	5.9	7.1	7.3
	Boston	6.5	7.4	7.0	6.0	6.2	7.8	11.5	12.2	11.8	11.4
International Office Network Report *	CBD	7.3	-	7.3	-	6.9	-	10.9	-	13.5	13.7
Meredith & Grew	Financial	5.8	7.1	7.1	6.3	6.4	8.3	10.5	12.0	11.4	11.7
	Back Bay	3.4	3.4	3.4	2.7	3.6	5.0	7.3	7.4	6.6	9.6
	Boston	5.2	6.2	6.2	5.5	5.8	7.5	9.7	12.2	12.0	12.6
Cushman & Wakefield #	Financial	5.6	-	-	6.0	6.9	8.9	9.7	11.9	11.7	11.7
	Back Bay	3.1	-	-	3.3	3.8	5.5	4.4	11.1	10.8	10.0
	Boston	8.7	-	-	7.8	7.7	9.2	10.0	12.8	12.4	12.6

Note: * Reports published semi-annually. # No summary information for 2nd and 3rd Quarters. 1987.

Source: Boston Redevelopment Authority, Research Department, November 1989. Spaulding & Slye, Office Market Survey, July 1989. International Office Network Report, Year Ending 1988. Meredith & Grew, Market Report, June 30, 1989. Cushman & Wakefield, Boston Trend, Second Quarter 1989.

Table 5

**Projected Supply of Class A Office Space,
1989 to 1994**

District and Project	Total Sq ft	Completion Date
Financial District		
125 Summer St.	446,861	1989.4
73 Tremont St.	237,825	1990.1
64 Franklin St.	71,100	1990.4
125 High St. Phase I	893,818	1991.1
125 High St. Phase II	438,872	1991.2
45 Province St.	132,435	1991.4
90 Tremont St.	183,300	1992.1
International Place II	657,000	1992.1
Commonwealth Ctr.	710,050	1992.3
One Lincoln St.	868,500	1993.1
Boston Crossing	756,000	1994.1
40 Franklin St.	414,000	1994.2
Subtotal	5,809,761	
Back Bay		
116 Huntington Ave.	215,100	1990.4
222 Berkeley St.	423,000	1991.2
Parcel 18 Phase I	225,000	1991.2
Prudential Center	675,000	1993.1
Subtotal	1,538,100	
Government Center		
101 Merrimac St.	158,835	1990.4
One Congress St.	225,000	1991.1
Subtotal	383,835	
Total	7,731,696	

Note: All square footage is represented as net.

Source: B.R.A. Research Department, November 1989.

Pipeline of Proposed Office Projects 1989 to 1994.

There are 18 office development projects, both new or rehabilitated, that are either under construction or expected to go under construction soon. All are Class A developments. The projects total 7.7 million square feet, of which 5 million will be built in the Financial District, 1.5 million in the Back Bay and 0.4 million in the Government Center area. Table 5 lists the buildings that are expected

to be completed through 1994. It includes each project's expected date of completion, the square feet that will be available for lease, and the district in which it will be located.

All of this space is expected to come in to the market for occupancy prior to the close of 1994, although this is premised upon the current estimates of completion dates. The space will flow into the market over the next four years in peaks and valleys. The uneven flow is due to the completion of several large scale projects, which will add a great deal of space during a relatively short period of time.

Projected Quarterly Vacancy Rates for All Districts, Class A, 1989-1994.

To maintain a healthy occupancy level, the BRA projects the future demand for office space and contrasts this demand with scheduled and proposed supply. This analysis generates projections of future vacancy rates in the Boston office market. These projections can be used to estimate the range of additional supply required to both satisfy demand and maintain acceptable occupancy levels in a range between 8 and 12 percent. Table 6 shows the projected supply of new office space expected to be completed each year through 1994.

The data from the list of proposed office developments have been joined with the known stock of office space to project vacancy rates through 1994. Two projections have been calculated, one using an annual absorption rate of 1.5 million square feet and the other using 1.3 million. The two projections have been calculated quarterly, beginning with the second quarter of 1989 and running through the

Table 6

Projected Annual New Supply of Class A Office Space in Boston for 1989 - 1994
(in square feet)

Year	1989	1990	1991	1992	1993	1994	Total
Supply	446,861	682,860	2,338,125	1,550,350	1,543,500	1,170,000	7,731,696

Source: Boston Redevelopment Authority, Research Department, November 1989.

Table 7

Projected Quarterly Vacancy Rates for All Districts, Class A, 1989-1994
(square feet in thousands)

Year	Quarter	Supply		Projection I			Projection II		
		Added	Total	Total	Vacancy		Total	Vacancy	
					Absorption	Rate		Absorption	Rate
1989	2nd	0	32,322	28,601	11.5%	3,720	28,437	11.5%	3,884
	3rd	0	32,322	28,976	10.3%	3,345	28,762	11.0%	3,559
	4th	447	32,769	29,351	10.4%	3,417	29,087	11.2%	3,681
1990	1st	238	33,006	29,726	9.9%	3,280	29,412	10.9%	3,594
	2nd	0	33,006	30,101	8.8%	2,905	29,737	9.9%	3,269
	3rd	0	33,006	30,476	7.7%	2,530	30,062	8.9%	2,944
	4th	445	33,451	30,851	7.8%	2,600	30,387	9.2%	3,064
1991	1st	1,119	34,570	31,226	9.7%	3,344	30,712	11.2%	3,858
	2nd	1,087	35,657	31,601	11.4%	4,056	31,037	13.0%	4,620
	3rd	0	35,657	31,976	10.3%	3,681	31,362	12.0%	4,295
	4th	132	35,790	32,351	9.6%	3,438	31,687	11.5%	4,102
1992	1st	840	36,630	32,726	10.7%	3,903	32,012	12.6%	4,618
	2nd	0	36,630	33,101	9.6%	3,528	32,337	11.7%	4,293
	3rd	710	37,340	33,476	10.3%	3,863	32,662	12.5%	4,678
	4th	0	37,340	33,851	9.3%	3,488	32,987	11.7%	4,353
1993	1st	1,544	38,883	34,226	12.0%	4,657	33,312	14.3%	5,571
	2nd	0	38,883	34,601	11.0%	4,282	33,637	13.5%	5,246
	3rd	0	38,883	34,976	10.0%	3,907	33,962	12.7%	4,921
	4th	0	38,883	35,351	9.1%	3,532	34,287	11.8%	4,596
1994	1st	756	39,639	35,726	9.9%	3,913	34,612	12.7%	5,027
	2nd	414	40,053	36,101	9.9%	3,952	34,937	12.8%	5,116
	3rd	0	40,053	36,476	8.9%	3,577	35,262	12.0%	4,791
	4th	0	40,053	36,851	8.0%	3,202	35,587	11.2%	4,466

Note: Projection I assumes that an annual absorption of office space is 1,500,000 square feet.

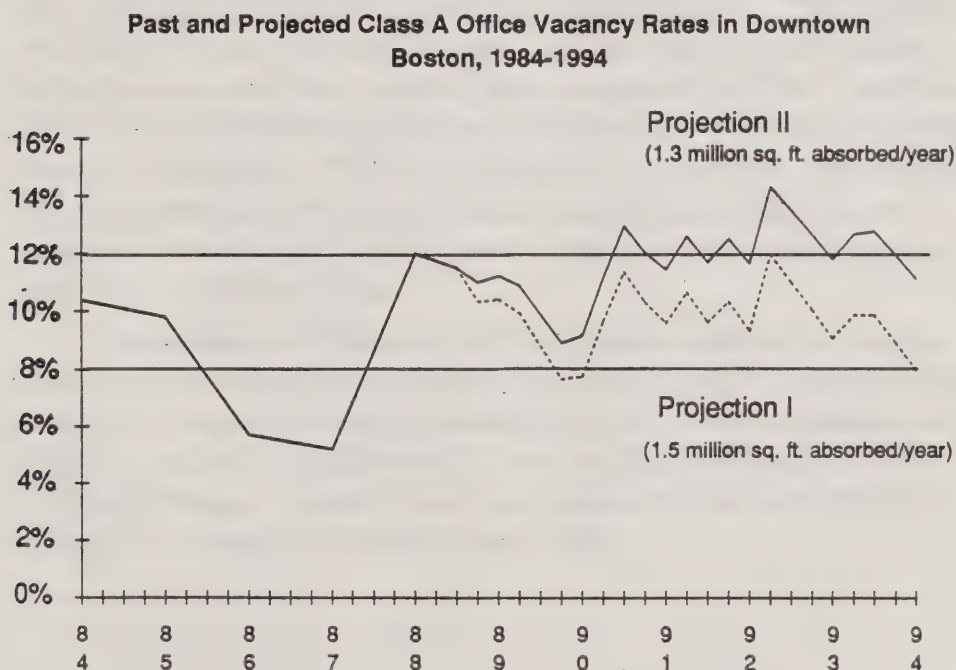
Projection II assumes an annual absorption of office space of 1,300,000 square feet.

Source: Boston Redevelopment Authority, Research Department, November 1989.

fourth quarter of 1994. The analysis has been performed for All Districts, Class A, and is shown in Table 7 and Figure 9.

Projection I assumes an annual absorption of office space to be 1.5 million square feet. The projected vacancy rates stay within the optimal range of 8 to 12 percent. Projection II, with a conservative estimate for annual absorption of 1.3 million square feet, sometimes exceeds the 12 percent benchmark for a short period, but returns to it by each year's end.

Figure 9

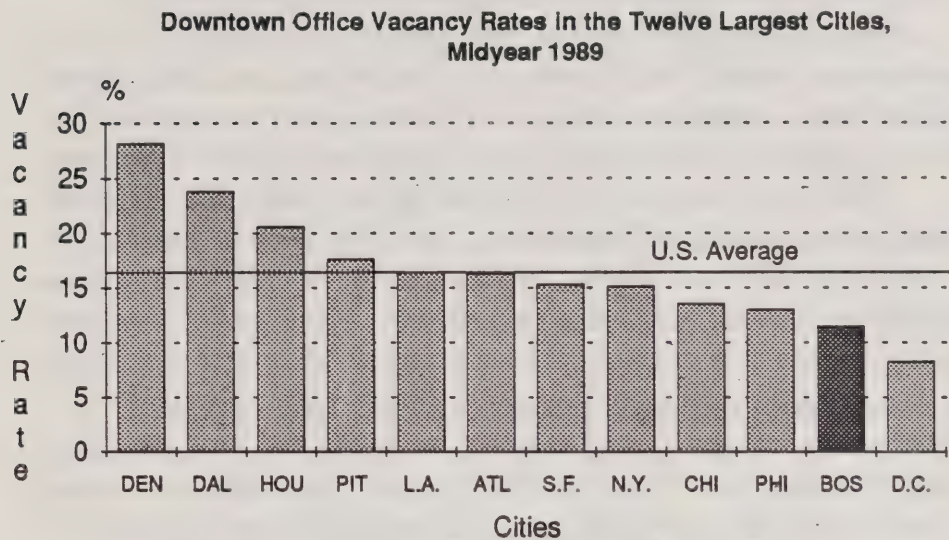


Comparison of Downtown Office Markets in Large U.S. Cities

Despite some recent softening in Boston's office market, most indicators remain strong compared to other major U.S. downtown office markets. Figure 10 compares Boston's downtown office vacancy rate with those for the nation's eleven other major markets. The 11.5 percent office vacancy rate for Boston as measured by the BRA ranks second lowest out of the twelve cities as measured by The Office Network. Only Washington, D.C. tops Boston as the best downtown office market in the nation. The U.S. average downtown office vacancy rate at 16.4 percent is forty percent higher than Boston's rate. Boston's rate has climbed over the past year but remains good in comparison with other major city rates.

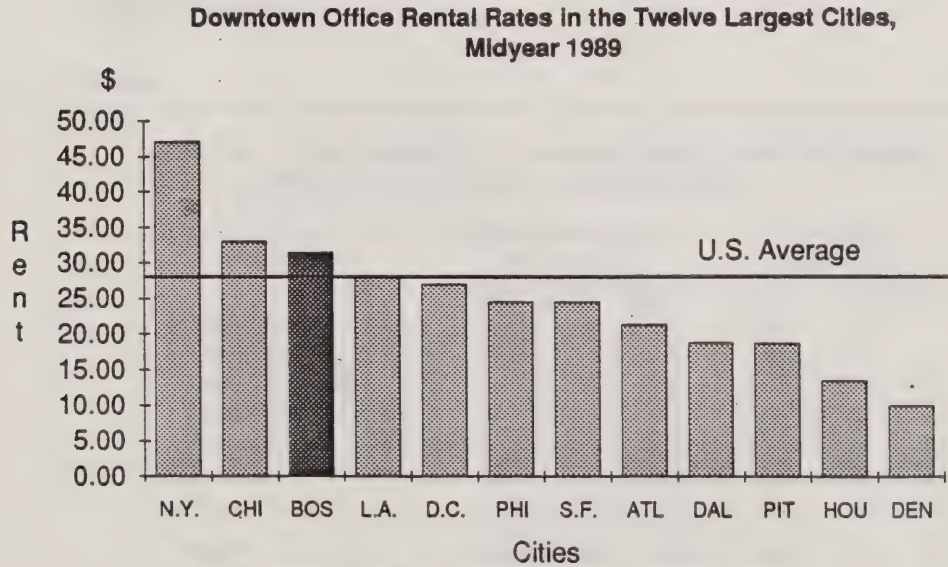
A comparison of downtown office market rents for the twelve largest office markets in the nation shown in Figure 11 indicates that Boston's average rent remains relatively high. Boston's average rent of \$31.43 ranks third highest of the twelve cities, trailing only New York and Chicago. Boston's rent has remained at around \$30.00 for the past two years as the market slackened.

Figure 10



Source: B.R.A. Research Dept. and The Office Network, Midyear 1989.

Figure 11



Source: B.R.A. Research Dept. and The Office Network, Midyear 1989.

The Metropolitan Boston Office Market

The Boston area office market has experienced rapid growth since 1982. Downtown Boston has been the focal point for office development, primarily due to the growth of its finance, professional and business services sectors which desire proximity to inter-related economic activity as well as a range of floor plates and types of office space and amenities. As the metropolitan economy expanded, specializations emerged favoring suburban locations for some business services and "back office" or ancillary operations in less expensive structures. Cambridge evolved as a market emulating Boston's financial district and drawing on the growing high-tech, bio-tech economy.

The metropolitan area has nearly 85 million square feet of total office space. In 1976 downtown Boston had almost two-thirds of all metro area office space, but by 1988 that mark was down to 57 percent. Table 8 details Boston's changing share of the region's office employment and office space for major industries over the 1976-1988 period, and projects the share to 2000. Figures 12 and 13 illustrate the growth rates in employment and office space, respectively, for the 1976-1988 and 1988-2000 periods for Boston and the Metro region including Boston.

Table 8

Boston Office Industry As A Share of Metro Region, By Industry, 1976 and 1988, Estimated, 2000 Projected

Industry	Office Employment (in percent)			Office Space (in percent)		
	1976	1988	2000	1976	1988	2000
Construction	40	5	1	45	11	2
Manufacturing	32	12	9	49	23	15
Trans/Comm./Pub. Util.	46	29	12	81	43	17
Wholesale and Retail Tr	40	18	14	56	22	15
Finance	52	56	53	67	81	70
Services	37	29	34	65	56	58
Government*	46	57	51	51	54	44
Total**	42	36	36	63	57	54

Note: * Not including office employment in public office space.

** Not including employment in agriculture sector.

Sources: U.S. Bureau of Economic Analysis and Boston Redevelopment Authority

Figure 12

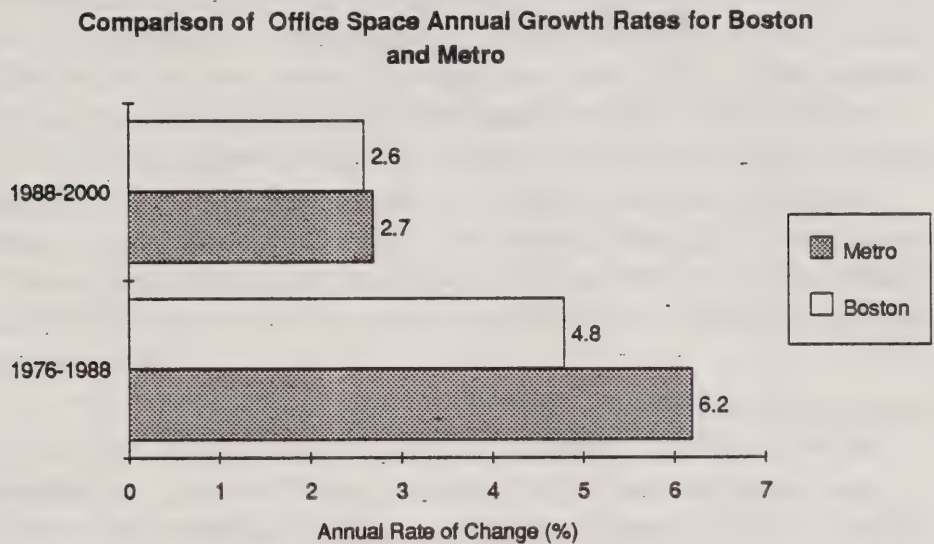
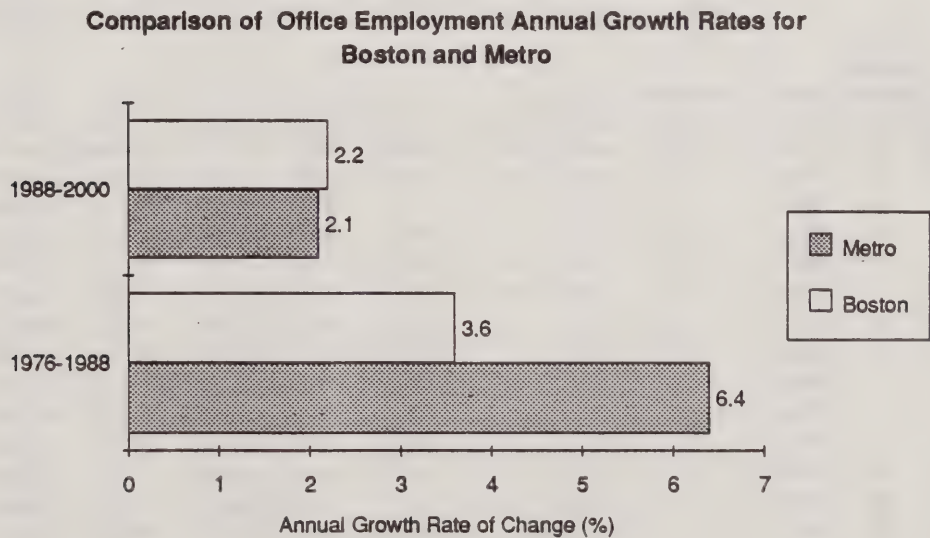


Figure 13



A major share of Boston's suburban office space is contained within Route 128 and the intersection of Routes 9 and 90. The principal nodes of these office developments are located in Cambridge (with three separate market areas), Burlington, Waltham and Quincy. These suburbs have grown at a rapid pace since 1982, adding almost 150 percent to their supply of office space by 1988, while downtown Boston's supply grew by only 58 percent over the same period. Table 9 compares the 1988 office markets in Boston, the cities and towns named above, and six other suburban areas. Although Boston's share of the region's office space has declined since 1982, the Boston office market still has more office space than the twelve suburban market areas combined.

The construction activity in the twelve suburban market areas is slowing somewhat, with 2.8 million square feet either under construction or approved for construction for the next five years, and slightly over 3 million additional square feet proposed for this period.

Table 9

Boston Area Office Market Profile, Boston and Twelve Largest Suburban Market Areas, 1988

Market Area	Total		Occupied	Vacancy Rate	Number of Buildings	Number of Floors		# of Buildings Larger than 100,000 S.F.	Median Floorplate in S.F.	Number of Buildings with Average Rent		Median Asking Rent (dollars)
	Rentable	Vacant (square feet)				Median	Range			Below \$20	\$20 & above	
Boston	34,323,562	2,681,461	31,642,101	7.8%	143	9	2-60	68	12,000	6	137	27.00
Allwife/Route 2	1,252,312	149,050	1,103,262	11.9%	12	4	3-10	5	22,408	4	8	23.00
Harvard Sq	1,386,224	219,800	1,166,424	15.9%	18	6	4-14	6	11,495	4	14	23.00
E. Cambridge	5,417,858	537,600	4,880,258	9.9%	32	6	4-19	22	18,586	4	28	24.00
Woburn	1,480,025	238,940	1,241,085	16.1%	14	4.5	3-6	6	21,125	9	5	15.00
Burlington	3,251,259	737,844	2,513,415	22.7%	44	3	2-6	12	20,500	22	22	21.00
Lexington	2,040,090	322,938	1,717,152	15.8%	35	3	2-7	6	19,333	11	24	20.50
Newton	1,876,478	361,324	1,515,154	19.3%	33	3	1-9	4	13,734	11	22	22.00
Waltham	4,654,976	558,035	4,096,941	12.0%	52	3	1-7	16	20,417	27	25	21.00
Wellesley	1,626,309	152,576	1,473,733	9.4%	38	3	1-5	4	10,959	16	22	22.25
Braintree	1,443,984	192,944	1,251,040	13.4%	22	4	1-5	3	21,334	15	7	19.00
Quincy	3,230,000	115,073	3,114,927	3.6%	21	4	2-10	14	21,000	12	9	19.50
Framingham	1,630,600	358,458	1,272,142	22.0%	29	4	2-6	3	10,100	15	14	21.00
Suburban Above:	29,290,115	3,944,582	25,345,533	13.5%	350	3.7	1-19	101	17,370	150	200	21.17
Total Above:	63,613,677	6,626,043	56,987,634	10.4%	493	5.3	1-60	169	15,812	156	337	22.86

Source: B.R.A. Policy Development and Research Department, September 1989 and Spaulding and Slye Office Market Survey, July 1988.

Table 10

**Boston Area Market Profile of Office Projects Under Construction and Proposed:
The Twelve Largest Suburban Market Areas, 1988-1993**

The Twenty Largest Suburban Market Areas, 1988-1989										Median Asking Rent		
Market Area	Status	Total Rentable	Vacant (square feet)	Occupied	Vacancy Rate	# of Buildings	# of Floors Median Range	Median Floorplate in S.F.	Number of Buildings with Average below \$20	Rent \$20 & above	Median Asking Rent (dollars)	
Alewife St	U.C.	158,500	145,225	11,275	93%	2	5.5	5	15,850	0	2	25.50
Route 2	PROP.	298,000	0	0	*	2	6	5-6	27,334	0	2	28.25
Harvard Sq	U.C.	0	0	0	*	0	0	0	*	0	0	NA
Mass Ave	PROP.	248,000	0	0	*	3	5.5	5-6	16,667	0	0	NA
East Cambridge	U.C.	523,500	291,500	232,000	56%	4	5.5	5-7	22,707	0	4	24.25
	PROP.	750,000	0	0	*	5	7	4-10	24,000	0	5	30.75
Woburn	U.C.	0	0	0	*	0	0	0	*	0	0	NA
	PROP.	80,000	0	0	*	1	3	3	26,667	0	1	25.00
Burlington	U.C.	172,000	120,000	52,000	70%	2	3	2-6	28,000	0	2	25.00
	PROP.	575,000	0	0	*	4	6	4-6	29,165	0	0	NA
Lexington	U.C.	0	0	0	*	0	0	0	*	0	0	NA
	PROP.	17,200	0	0	*	1	3	3	26,667	0	1	25.00
Newton	U.C.	0	0	0	*	0	0	0	*	0	0	NA
	PROP.	0	0	0	*	0	0	0	*	0	0	NA
Waltham	U.C.	917,870	906,870	11,000	99%	5	3	3-6	45,833	0	5	27.50
	PROP.	520,000	0	0	*	4	3.5	3-6	23,750	0	4	26.00
Wellesley	U.C.	0	0	0	*	0	0	0	*	0	0	NA
	PROP.	0	0	0	*	0	0	0	*	0	0	NA
Braintree	U.C.	0	0	0	*	0	0	0	*	0	0	NA
	PROP.	0	0	0	*	0	0	0	*	0	0	NA
Quincy	U.C.	0	0	0	*	0	0	0	*	0	0	NA
	PROP.	462,000	0	0	*	3	5	4-5	28,400	0	3	26.75
Framingham	U.C.	986,000	746,000	240,000	76%	2	5	4-6	104,500	0	2	22.25
	PROP.	188,000	0	0	*	2	4.5	3-6	24,000	0	2	23.75
Total Suburban:	U.C.	2,755,870	2,209,595	546,275	80%	15	4.3	2-7	41,086	0	15	25.33
	PROP.	3,138,200	0	0	*	25	5.3	3-10	24,915	0	18	19.68

Note: U.C. stands for Under Construction or Approved for Construction. PROP. stands for Proposed.

* indicates not applicable. NA stands for not available.

Source: B.R.A. Policy Development and Research Department, September 1989,
Spaulding and Slye Office Market Survey, July 1989.

See Table 10. Other areas, however, are attracting large construction proposals also: these towns include Danvers and Wakefield in the north, Canton and Westwood to the south, and Natick and Marlborough in the west. In these areas and other towns in the region, 2.5 million square feet of office space are under construction, and a further 3.6 million proposed for just the next two to three years.

Most suburban towns are not able to monitor growth in demand for office space and pace supply to match it, and zoning codes often allow massive amounts of development. With public management dispersed over many small, competing towns, office growth in these areas is determined largely by market conditions and availability of finance.

The higher vacancy rates for suburban office space compared to Boston reflects this lack of metering and growth management. Table 9 indicates that 1988 vacancy rates in the largest suburban markets ranged to nearly 22 percent, compared to Boston's 8 percent.

Communities have a strong reliance on new development for new local property tax revenues in a time of tight revenues, so in many cases do not assess the health of the regional market when making development decisions. A well-planned metropolitan-wide office market would provide much better balance and more stable market conditions. In this regard the BRA encourages the Metropolitan Area Planning Council to take a strong leadership role in monitoring and metering suburban office space development.

Market Characteristics of Boston and the Twelve Major Suburban Office Markets.

The suburban Boston area office market has mostly grown along the major transportation routes in the metropolitan area in the past five years. The major portion of the suburban Boston area office space is centered in twelve market areas within the Route 128 corridor and the intersection of Routes 9 and 90. They include: Cambridge (Alewife\Route2, Harvard Sq\Mass Ave, East Cambridge), Woburn, Burlington, Lexington, Newton, Waltham, Wellesley, Braintree, Quincy and Framingham. These twelve markets account for 29.3 million square feet of office space, in 350 buildings, accounting for 78 percent of the metro region office space outside of Boston. Comparison of various market characteristics can be found in Table 9.

Total rentable area in the City of Boston between 1982 and 1988 increased from 20 million square feet to over 34 million of class A space. In the twelve largest suburban markets, total rentable area more than doubled, increasing from 12 million square feet to over 29 million square feet. The rentable office space in these suburbs was 38 percent of Boston's in 1982 and had increased to 46 percent by 1988.

The brisk growth of the suburban office market caused more competition for tenants and resulted in higher vacancy rates. The vacancy rate of the twelve suburban markets was 7.3 percent in 1982,

rising to 13.5 percent in 1988. Boston's rates were 2.6 percent in 1982 and 7.8 percent in 1988.

Median rents in Boston's upscale office market are higher than for the business services oriented space in the suburbs, but the latter rose faster. Median asking rent for all classes in Boston increased from \$25 per square foot in 1982 to \$26 in 1985 and to \$27 per square foot in 1988. In the suburbs, rent rose almost 40 percent from 1982 to 1988. Rents went from \$15.34 dollars per square foot in 1982 to \$21 per square foot in 1988.

The construction of taller and often narrower buildings in Boston from 1982 to 1988 contributed to the reduction of median floorplates. Median floorplates went from 16,614 square feet in 1982 to only 12,000 by 1988. In the suburbs by contrast, the construction of lower rise buildings has increased the median floorplate size from 13,105 square feet in 1982 to 17,370 square feet in 1988. This reflects the lower land costs in the suburbs.

Suburban Office Parks.

Suburban office parks, and the more recent "Super Parks", have grown outside downtown Boston, primarily within Route 128. These suburban office parks have distinctive functions and structure, and range in size from 500,000 to 1.1 million square feet. The "Super Parks," with large buildings, amenities, and competitive rents are beginning to have an effect upon the downtown market as tenants are offered cut-rate deals.

The "Super Park" concept grew out of the need to provide amenities that a city center location would offer. The amenities include cafeterias, restaurants, retail shopping, fitness centers, and day care facilities. The parks also have ample free parking. In most cases, parking ratios exceed three free parking spaces per rentable 1,000 square feet of office space.

Office Space Under Construction and Proposed in the Boston Area 1989-1993.

The whole metro office market will grow somewhat more slowly over the next twelve years compared to the last twelve. However, suburban growth may be slightly faster than downtown growth. Between

1976 and 1988, of the 37 million square feet of new office space produced, 18 million of that, or 49% was downtown. Based upon future job growth, a total of 34.5 million square feet of new space will be in demand in the region to the year 2000, of which 15 million, or 43% will be downtown. Thus, Boston's office market will stand at about 54% of the total metro market by 2000. See Table 8.

There are currently 2.8 million square feet of office space under construction or slated to go under construction and 3.1 million additional square feet proposed to be built in the twelve largest suburban market areas. See Table 10. The majority of this office space will be clustered in East Cambridge, Burlington, Waltham and Framingham. Framingham has the largest amount under construction with close to 1 million square feet, followed by Waltham with almost an equivalent amount. Burlington and Waltham each have over 500,000 thousand additional square feet proposed, while for East Cambridge 750,000 thousand square feet are proposed. 821,000 square feet of the proposed space will be additions to the "Super Parks" described above.

East Cambridge has the greatest amount of committed office space under construction with 44 percent pre-leased, while Burlington and Waltham each have nearly 30 percent pre-leased. Alewife\ Route 2 has the least amount of committed office space, with only seven percent. Of the 2.8 million square feet under construction in the twelve suburban market areas, only 20 percent has been committed. In view of this, the actual amount of proposed office space will be ultimately decided by market conditions, financing and community approval. Median asking rents in the new suburban buildings vary widely. In most cases median rents are in the mid-twenty dollar per square foot range.

